

REMARKS

Applicant respectfully requests consideration and allowance of the pending claims. Claims 1, 11 and 23 are independent.

Applicant has elected to clarify certain claims of the instant Applicant by way of amendment. The Applicant submits that none of the amendments were made for reasons related to patentability.

Claim Rejections Under § 102

Claims 23-34 stand rejected as being unpatentable under 35 U.S.C. § 102(e) in view of U.S. Patent No. 6,684,326 to Cromer et al. ("Cromer"). Applicant respectfully traverses this rejection.

Claim 23 recites:

A portable computing device, comprising:
flash memory, the flash memory including *a protected area and an unprotected area*;
a *bootloader stored in the protected area* of flash memory, the bootloader containing a crypto module;
an *operating system image stored in the unprotected area* of flash memory;
random access memory (RAM); and
wherein the crypto module of the *bootloader is operative to examine an image update* to determine if the image update should be programmed into the unprotected area of flash memory to boot the device *based on information included in a signed catalog file embedded in the image update*. (Emphasis added.)

Applicant respectfully submits that the relied upon patent does not disclose what is recited by independent claim 23 for at least the following reasons. Before addressing the rejection in specificity, the Applicant provides the following comments on the Office's *Response to Arguments Section*.

Applicant's Comments on Response to Arguments Section

In the following, the Applicant addresses the Office's comments on pages 2-3 of the current Office Action.

The Office traverses the Applicant's argument that Cromer does not disclose "a *bootloader stored in the protected area* of flash memory." In the traversal, the Office points to column 5, lines 6-14, of Cromer. That portion of Cromer discloses that the protected storage 262 includes a "master public key and [a] master private key." However, Applicant is unable to find anything in Cromer that discloses that a bootloader is stored in the protected storage 262. Therefore, Cromer does not disclose "a *bootloader stored in the protected area* of flash memory." (See claim 23.)

The Office failed to traverse the Applicant's argument that Cromer does not disclose storage of an operating system in an "unprotected area of flash memory." Cromer discloses flash memory 242 that includes BIOS. (See column 3, lines 21-27.) But those of ordinary skill in the art understand BIOS is not an operating system.

At the end of page 2 and continuing to page 3 of the current Office Action, the Office traverses the limitation of claim 23 that starts at "wherein." (See claim 23 reproduced above.) The Office states, on several occasions, that Cromer "suggests" certain features of claim 23. The Office is respectfully reminded that a rejection under 35 U.S.C. § 102(e) must be based on factual disclosure. The Office's own comments show that this requirement is not met. Therefore, the current Section 102 rejection is improper.

Notwithstanding Applicant's comments in the foregoing paragraph, the Office's traversal fails to address the Applicant's arguments describing why

Cromer fails to disclose the limitation of claim 23 that starts at "wherein." The Office is respectfully requested to refer to page 14 of this Response for the details of the Applicant's arguments.

Applicant's Comments on § 102 Rejection

The Cromer patent describes methods and systems for performing an authenticated boot of a computer system in a networked computing environment. Cromer discusses the authenticated process in *column 5, lines 15 – 63*, of the relied upon patent.

According to Cromer, a client system 104 is first powered on. Then, a boot BIOS reviews a boot device list to determine and select a bootable hardware element that includes an operating system. Cromer does not disclose that the boot BIOS is stored in a "protected area of flash memory." (Claim 23.) Moreover, Cromer does not disclose that the operating system is stored in an "unprotected area of flash memory." (Claim 23.)

The Office states that flash memory is disclosed in the Cromer patent at *column 4, lines 17 – 57*. The indicated section of the patent discloses a protected storage 262. However, there is nothing that discloses or suggests that the protected storage 262 is used for anything other than the storage of master keys. (See *column 4, lines 38 – 39*.) And Cromer is completely silent regarding the storage of an operating system in an "unprotected area of flash memory."

According to the process described in the Cromer patent, once a bootable operating system image is found by the boot BIOS, an encryption chip 261 signs the boot record associated with the operating system image. (See *column 5, lines 34 – 38*.) The boot BIOS then hashes the boot record, encrypts the hash, and sends the signed hash to a server 100. (See *column 5, lines 37 – 41*.) The server

100 determines if the boot record is valid. Therefore, the process according to the Cromer patent does not disclose or suggest "the *crypto module of the bootloader* is operative to *examine an image update* to determine if the image update should be programmed into the unprotected area of flash memory to boot the device based on information included in *a signed catalog file embedded in the image update*." (Emphasis added.) More specifically, the boot BIOS of the Cromer performs an encryption process, but fails to *examine an image* of the operating system. Therefore, it is impossible that the boot BIOS is capable of determining "if the image update should be programmed into the unprotected area of flash memory to boot the device based on information included in *a signed catalog file embedded in the image update*."

In accordance with the above, Applicant submits that Cromer does not disclose the recitation of claim 23. Thus, claim 23 is patentable over the cited reference. Furthermore, because claims 24 – 34 are patentable for at least the same reasons as the independent claim from which they depend, and because they add additional features to claim 23, Applicant submits that claims 24 – 34 also are patentable. Accordingly, Applicant respectfully requests that the rejection under 35 U.S.C. § 102(e) be withdrawn against the pending claims.

Claim Rejections Under § 103

Claims 1-22 stand rejected as being unpatentable under 35 U.S.C. § 103(a) in view of U.S. Patent No. 5,781,773 to Vanderpool et al. ("Vanderpool") in view of Cromer. Applicant respectfully traverses this rejection.

Claim 1 recites:

A method of file system protection for a resource-sparing operating system image, comprising:
loading a resource-sparing operating system image into random access memory (RAM), *the image including a catalog file embedded therein*;
creating a first hash of the image;
extracting a second hash of the image from the catalog file;
comparing the first hash and the second hash; and
blocking the use of the image to boot the computing device if the first hash and the second hash do not match, or
validating the use of the image to boot the computing device if the first hash and the second hash match. (Emphasis added.)

Respectfully, the combination fails to suggests what is recited by claim 1 for at least the following reasons. However, before addressing the rejection in specificity, the Applicant provides the following additional comments on the Office's Response to Arguments Section.

Applicant's Further Comments on Response to Arguments Section

In the following, the Applicant addresses the Office's comments on pages 3-5 of the current Office Action.

The Office admits on page 3 of the current Office Action that Vanderpool does not disclose resource-sparing operating system images, but suggests that the JPEG images discussed in Vanderpool may be replaced by such operating system images. The Office provides the following reasoning for reaching this conclusion. The Office asserts the Vanderpool system discloses the use of a resource-sparing

operating system because the disclosed computer system has 16 Mbytes of RAM and 2 GBytes of disk memory. The parent of the Vanderpool patent was filed in 1995. At that time, an operating system on that system would not be considered resource-sparing. In addition, the operating system *used* by the Vanderpool system does not address the fact that Vanderpool does not disclose a process that enables file system protection for a resource-sparing operating system image.

On page 3 of the current Office Action, the end of the second full paragraph, the Office asserts that Vanderpool discloses, at column 8, lines 4-15 & lines 35-40, "creating a *first hash* of the image; [and] extracting a *second hash* of the image from the catalog file." (Claim 1.) The Applicant still does not appreciate the Office's position. Vanderpool discloses *placing/copying* compressed images and corresponding text supplements using a hash algorithm. (Column 8, lines 4-6 & 33-37.) In other words, the has algorithm is used as an indexing tool. The algorithm in Vanderpool does not *create* a "first hash" or and image and/or *extract* "a second hash of the image from the catalog file."

Applicant's Comments on § 103 Rejection

The Vanderpool patent discloses a method of transforming and storing data for search and display by a computer system. The relied upon patent discusses the compression of image data and alignment of such image data with related summary data. (See *Abstract*.)

The Office maintains that the Vanderpool patent discloses an "image including a *catalog file embedded therein*." (Claim 1.) It is asserted that *column 11, lines 31-35* of the Vanderpool patent discloses the foregoing subject matter. The Applicant disagrees with the Office's assessment of Vanderpool.

The patent discloses that a compressed thumbnail image 48 may be loaded into random access memory 126. Summary data fields 158 may also be loaded into the memory 126. (*See column 11, lines 31 – 41.*) The images 48 are *not* resource-sparing operating system images. This is clearly seen in figure 11 of the Vanderpool patent. Instead, Vanderpool discloses that the compressed images are in standard *JPEG* format. Those of ordinary skill in the art readily understand that *JPEG* formatted images are not remotely related to operating system images. (*See column 11, lines 63 – 65.*) Certainly, such *JPEG* formatted images do not include "a catalog file embedded therein." (Claim 1.)

Vanderpool also does not disclose "creating a *first hash* of the image; [and] extracting a *second hash* of the image from the catalog file." (Claim 1.) The patent does disclose the use of a hash algorithm to *copy* compressed images and text supplements 18 to about 100 subdirectories. (*See column 7, lines 61 – 64.*) In particular, Vanderpool discloses that the hash algorithm may be any hash algorithm which places the images and text supplements in the 100 subdirectories. (*See column 8, lines 5 – 8.*) Although the hash algorithm used by Vanderpool does copy compressed images to a particular location, the used hash algorithm does not *create* a hash of the compressed images.

The Office maintains that the "catalog file" recited in claim 1 may be broadly interpreted as a data "linked" to a compressed image. (*Current Office Action, page 9, last paragraph.*) Applicant respectfully submits that "linked" is not a synonym of "embedded." Moreover, even a brief review of figure 11 of the Vanderpool patent shows that the text supplements are not *embedded* in the images 48.

The Office acknowledges that Vanderpool fails to disclose "blocking the use of the image to boot the computing device if the first hash and the second hash do not match." (Claim 1.) The Office looks to Cromer to remedy this particular deficiency of Vanderpool. However, even if Cromer were to disclose the indicated limitation of claim 1, which the Applicant does not admit, the Cromer patent does not remedy the deficiencies of Vanderpool discussed hereinabove.

Accordingly, Applicant respectfully submits that the combination of Vanderpool in view of Cromer does not suggest the limitations of claim 1. Claims 2-10 are at least allowable due to their dependency upon an allowable independent claim, as well as for additional limitations set forth by the claims.

Claim 11 recites:

A method of file system protection for a resource-sparing operating system image, the image including a catalog file embedded therein, comprising:

examining the catalog file and the image to determine if the image is a properly released image; and

blocking use of the image to boot the computing device when the examining determines that the image is not a properly released image. (Emphasis added.)

The combination fails to suggest limitations of claim 11, for the following reasons.

With respect to the limitation "a resource-sparing operating system image, the image including a catalog file embedded therein," the Office is respectfully requested to see the Applicant's arguments in connection with claim 1 and which address various deficiencies of Vanderpool in view of Cromer.

The Office states that column 11 of Vanderpool, lines 31-35, discloses the "examining" act of claim 11. Foremost, as discussed herein, Vanderpool in view of Cromer does not suggest "a resource-sparing operating system image." Thus,

the combination does not suggest determining if "the image is a properly released image." As those of ordinary skill in the art appreciate, a properly released OS image may be, for example, an OS image that is certified by a manufacturer. Vanderpool in view of Cromer do not suggest technology that even remotely concerns properly released OS images. In addition, because the combination does not suggest a "resource-sparing" OS image and the "examining" act, the "blocking" act of the claim is also not suggested by the combination.

Accordingly, Applicant respectfully submits that the combination of Vanderpool in view of Cromer does not suggest the limitations of claim 11. Claims 12-22 are at least allowable due to their dependency upon an allowable independent claim, as well as for additional limitations set forth by the claims.

The detailed discussion above shows that Vanderpool and Cromer, whether taken alone or in combination together, fail to suggest the subject matter of the claims rejected under 35 U.S.C. § 103(a). Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

In accordance with the foregoing remarks, Applicant believes that the pending claims are allowable and the application is in condition for allowance. Therefore, a Notice of Allowance is respectfully requested. Should the Examiner have any further issues regarding this application, the Examiner is requested to contact the undersigned attorney for the Applicant at the telephone number provided below.

Respectfully Submitted,

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